Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A driving apparatus for driving a fluorescent lamp using a high-frequency inverter method, the driving apparatus comprising:

a substrate that has a first main surface and a second main surface, each main surface including an electronic-device mountable area;

a choke coil that is mounted to the first main surface and is terminally connected to the substrate, the choke coil being a component of a high-frequency inverter; and

a switching device ~~that is mounted to the second main surface, so as to be opposed to the choke coil with the substrate therebetween and to be thermally connected to the substrate~~ comprising a main body including a switching function, and a lead portion elongated from the main body, wherein the entire main body of the switching device is oriented on the second main surface directly opposite the choke coil with the substrate therebetween and to be thermally coupled to the substrate, the switching device being a component of the high frequency inverter and being positioned in a power-supply path to the fluorescent lamp.

2. (Currently Amended) The driving apparatus of Claim 1, wherein the switching device shuts down or restricts a power supply to the fluorescent lamp when a temperature of ~~a~~ the main body of the switching device exceeds a heat resistance temperature, the main body receiving transmission of heat generated at the choke coil.

3. (Original) The driving apparatus of Claim 1, further comprising:

a rectifier circuit portion that includes a smoothing capacitor device, wherein

the smoothing device i) includes: a main body in substantially cylindrical shape; and a lead portion elongated from the smoothing capacitor device main body, and ii) is provided for the first main surface of the substrate, and

the smoothing capacitor device main body is provided either a) in proximity of the choke coil with a gap of 4 mm or smaller therebetween, or b) in contact with the choke coil.

4. (Original) The driving apparatus of Claim 3, wherein

the smoothing capacitor device lead portion is processed to be bent to conform to the outer surface of the choke coil, and

the heat generated at the choke coil is transmitted to the smoothing capacitor device main body via the smoothing capacitor device lead portion.

5. (Original) The driving apparatus of Claim 1, wherein a plurality of electronic devices, different from the choke coil, are mounted to the first main surface of the substrate by insertion mounting method,

at least one of the electronic devices is provided to have an angle in a range larger than 0 degree and smaller than 90 degrees, with respect to a mounting orientation of the choked coil, and

a lead portion of the electronic device having the angle is processed to be bent towards a center of the first main surface.

6. (Original) The driving apparatus of Claim 1, wherein

the fluorescent lamp includes an arc tube that has a double-spiral discharge path.

7. (Currently Amended) A compact self-ballasted fluorescent lamp comprising:

an arc tube that has a double-spiral discharge path, and electrodes provided at both ends of the discharge path; and

a lighting-apparatus unit that supplies power to the electrodes of the arc tube, and drives the arc tube using a high-frequency inverter method, the lighting-apparatus unity including: a substrate that has a first main surface and a second main surface, each main surface including an electronic-device mountable area; a choke coil that is mounted to the first main surface and is thermally connected to the substrate, the choke coil being a component of a high-frequency inverter; and a switching device ~~that is mounted to the second main surface, so as to be opposed to the choke coil with the substrate therebetween and to be thermally connected to the substrate~~ comprising a main body including a switching function, and a lead portion elongated from the main body, wherein the entire main body of the switching device is oriented on the second main surface directly opposite the choke coil with the substrate therebetween and to be thermally coupled to the substrate, the switching device being a component of the high-frequency inverter and being positioned in a power-supply path to the fluorescent lamp.

8. (Currently Amended) The compact self-ballasted fluorescent lamp of Claim 7, wherein

the switching device shuts down or restricts the power supply when a temperature of ~~a~~ the main body of the switching device exceeds a heat resistance temperature, the main body receiving transmission of heat generated at the choke coil.

9. (Original) The compact self-ballasted fluorescent lamp of Claim 7, wherein

the lighting-apparatus unit includes a rectifier circuit portion that includes a smoothing capacitor device,

the smoothing capacitor device i) includes: a main body in substantially cylindrical shape; and a lead portion elongated from the smoothing capacitor device main body, and ii) is provided for the first main surface of the substrate, and

the smoothing capacitor device main body is provided either a) in a proximity of the choke coil with a gap of 4 mm or smaller therebetween, or b) in contact with the choke coil.

10. (Original) The compact self-ballasted fluorescent lamp of Claim 9, wherein

the smoothing capacitor device lead portion is processed to be bent to conform to the outer surface of the choke coil, and

the heat generated at the choke coil is transmitted to the smoothing capacitor device main body via the smoothing capacitor device lead portion.

11. (Original) The compact self-ballasted fluorescent lamp of Claim 7, wherein

a plurality of electronic devices, different from the choke coil, are mounted to the first main surface of the substrate by insertion mounting method,

at least one of the electronic devices is provided to have an angle in a range larger than 0 degree and smaller than 90 degrees, with respect to a mounting orientation of the choke coil, and

a lead portion of the electronic device having the angle is processed to be bent towards a center of the first main surface.

12. (Original) The compact self-ballasted fluorescent lamp of Claim 7, wherein the both ends of the arc tube are stored in a case together with the lighting-apparatus unit.

13 (New) The driving apparatus of Claim 1, wherein the choke coil is oriented in substantially a center of the first main surface, and the switching device is oriented in substantially a center of the second main surface.

14. (New) A driving apparatus for driving a fluorescent lamp, comprising:

a substrate comprising a first surface;

a choke coil coupled to the first surface;

a switching device coupled to the choke coil; and

a smoothing capacitor coupled to the switching device, wherein the smoothing capacitor is one of directly coupled to the choke coil and coupled proximate to the choke coil via at least one lead.

15. (New) The driving apparatus of Claim 14, wherein the smoothing capacitor is coupled proximate to the choke coil such that the smoothing capacitor is oriented within about 4 millimeters of the choke coil.

16. (New) The driving apparatus of Claim 15, wherein the at least one lead is configured to transfer heat from the choke coil to the smoothing capacitor.

17. (New) The driving apparatus of Claim 14, wherein the smoothing capacitor is directly coupled to the choke coil.

18. (New) A driving apparatus for driving a fluorescent lamp, comprising:

a substrate comprising a first surface and a second surface;

a choke coil coupled to the first surface; and

a switching device, wherein a first portion of the switching device is coupled to the first surface, and a second portion of the switching device is coupled to the second surface and the first portion is in thermal communication with the choke coil.

19 (New) The driving apparatus of claim 18, wherein the first portion is a positive MOS-FET device and the second portion is a negative MOS-FET device.

20. (New) The driving apparatus of claim 18, further comprising:

a smoothing capacitor, wherein the smoothing capacitor is one of directly coupled to the choke coil and coupled proximate to the choke coil via at least one lead.